

MAKING BETTER DECISIONS

2003 Dry Bean Variety Performance Trials



Agricultural Experiment Station

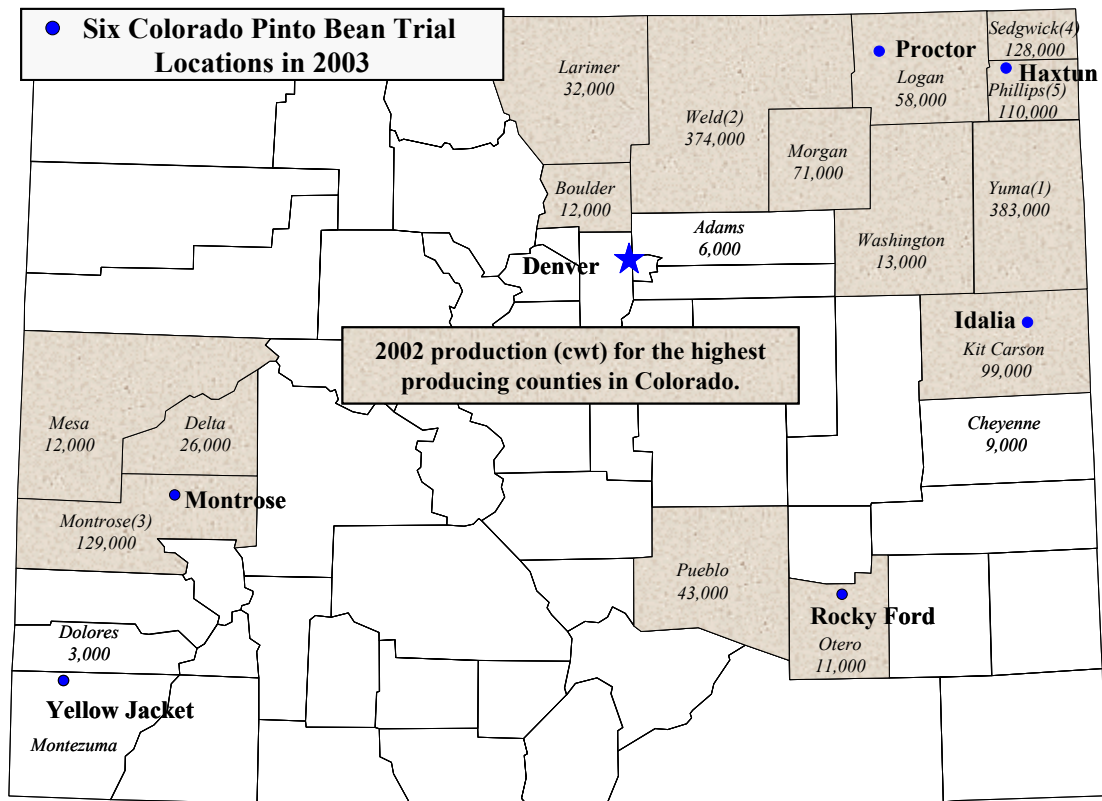
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2003 COLORADO DRY BEAN PERFORMANCE TRIALS

Introduction

Dry bean acreage and production have declined in Colorado over the last ten years. In 2002, Colorado was the seventh largest producer of dry beans in the United States with the lowest product since 1921. In 2003, area harvested declined to only 69,000 acres; presumably due to continued drought effects in southwest Colorado and water problems (i.e., water access) in eastern Colorado. Nevertheless, Colorado producers annually spend millions of dollars on pinto bean seed which makes variety selection important. Colorado State University's Crops Testing program, bean breeding program, bean pathology research, and three agricultural research stations collaborate to conduct six uniform variety trials annually to provide unbiased and reliable variety performance results from uniform variety trials to help Colorado dry bean producers' make better variety decisions. The uniform variety trial serves a dual purpose of screening experimental lines from CSU's bean breeding program, or from bean seed companies, and to compare commercial variety performance for making variety recommendations to Colorado bean producers. The uniform variety trial is made possible by funding received from Colorado dry bean producers and handlers via the

Colorado Dry Bean Administrative Committee. Funding from the Colorado Bean Network makes it possible to publish the variety performance results in annual reports.

The 2003 uniform variety trials were planted at six locations for the fifth year. They were planted at four eastern Colorado trial locations including: Proctor (Platte River Valley), Haxtun, Idalia (Golden Plains), and Rocky Ford, (Arkansas River Valley) and two western Colorado locations: Montrose and Yellow Jacket. Varieties tested in 2003 are described in the tables below. A randomized complete block field design with three replicates was used in all trials. The seeding rate was approximately 85,120 seeds per acre with plots consisting of four 30-inch rows and 36 feet long. All trials were in commercial bean fields or on CSU research stations. Seed yields, in pounds per acre, are adjusted to 14% moisture content. The disease profile was different this year than in the past. Rust and White Mold were not evident in the trials but, as seen in Table 1 bean diseases, Common Bacterial Blight, Bacterial Brown Spot, Fusarium Wilt, and Bean Common Mosaic Virus were found with varying degrees of severity at Proctor, Haxtun, and Idalia.

Table 1. Cultural conditions for trials in 2003.

	Haxtun	Montrose	Idalia	Proctor	Rocky Ford	Yellow Jacket
Soil Type	Haxtun Sandy Loam		Kuma-Keith Silt Loam	Norka Ulysses Loam	Silty Clay Loam	Clay Loam
Previous Crop	Corn	Spring Barley	Corn	Corn	Fallow	Fallow
Fertilization						
N acre ⁻¹	45	10	80	30	16	19
P ₂ O ₅ acre ⁻¹	15	21	19	0	75	2.2
S acre ⁻¹	12	5	0	0	0	0
Zn acre ⁻¹	0	0	0	0	0	1
Herbicide	Dual II Magnum Eptam Basagran	MicroTech Sonalan	Trifluralan	Eptam Sonalan	Eptam Treflan	Pursuit
Bactericide	Nucop 3PL	None	Champ II	Kocide	None	None
Insecticide	None	Disyston	None	None	None	None
Irrigation	Sprinkler	Furrow	Sprinkler	Sprinkler	Furrow	Sprinkler

Pinto Bean Varietal Descriptions:

Bill Z	A medium maturity (95 d) variety released by Colorado State University in 1985. It has a vine Type III growth habit with resistance to bean common mosaic virus and moderate tolerance to bacterial brown spot. It is a very productive variety with excellent seed quality. However, it is susceptible to white mold, common bacterial blight and rust.	Montrose	A medium maturity (97 d) variety released by Colorado State University in 1999. It has resistance to rust and bean common mosaic virus. It has high yield potential and excellent seed quality. Because it has very prostrate vine Type III growth habit, it is highly susceptible to white mold.
Buckskin	A variety released by Syngenta Seeds, Inc. (RNK101). It is a vine Type III growth habit with resistance to bean common mosaic virus, but is susceptible to white mold, rust, and bacterial brown spot with early to medium maturity (92 d).	Poncho	A medium maturity (96 d) variety from Syngenta Seeds, Inc. with resistance to bean common mosaic, high yield potential and excellent seed quality. It has semi upright Type III growth habit. It is susceptible to rust and bacterial brown spot.
CO12650	An experimental line from Colorado State University.	00167	An experimental line from ProVita, Inc. (relatively new bean seed company in Washington State).
CO83778	An experimental line from Colorado State University.	00195	An experimental line from ProVita, Inc.
CO83783	An experimental line from Colorado State University.	99195	An experimental line from ProVita, Inc.
CO96731	An experimental line from Colorado State University.	99204	An experimental line from ProVita, Inc.
CO96737	An experimental line from Colorado State University.	99211	An experimental line from ProVita, Inc.
CO96753	An experimental line from Colorado State University.	99218	An experimental line from ProVita, Inc.
Grand Mesa	A medium maturity (96 d) variety from Colorado State University released in 2001. Grand Mesa combines resistance to rust, bean common mosaic virus, semi-upright Type II plant architecture and field tolerance to white mold, but is susceptible to common bacterial blight and bacterial brown spot. It has moderate yield potential and good seed quality.	99236	An experimental line from ProVita, Inc.

Table 2. Average pinto bean performance over six Colorado locations in 2003.

Variety*	Location						Average
	Haxtun	Idalia	Montrose	Proctor	Rocky Ford	Yellow Jacket	
	-----Yield (lb/ac)-----						
Montrose	3662	2931	2640	2909	3853	1740	2956
99195	3108	2536	3709	2112	3862	2018	2891
Poncho	3070	2969	2450	2810	3987	1670	2826
CO12650	2892	2710	2934	1707	3712	1936	2648
99236	2710	2587	3181	2216	3120	2056	2645
99211	3155	2521	2872	2295	3464	1497	2634
00167	2324	2372	3477	2342	3153	2011	2613
00195	3117	2510	3248	1914	2808	1862	2576
CO96731	3163	2439	2995	1609	3176	1601	2497
CO96737	3239	2726	2711	1637	3139	1515	2494
CO83783	3118	2269	2756	1889	3173	1717	2487
CO83778	3233	2421	2733	1562	3185	1769	2484
Bill Z	3087	2323	2465	2083	3355	1466	2463
99204	2474	2029	3230	2343	2807	1594	2413
Buckskin	2873	2217	2327	2464	3038	1376	2382
99218	1946	2082	2732	1837	3239	1883	2287
Grand Mesa	2346	2317	2361	1854	3387	1436	2283
CO96753	2257	2152	2978	1179	3337	1613	2253
Average	2876	2450	2878	2042	3322	1680	2542

*Varieties ranked by the average yield over six locations in 2003.

Summary of Pinto Bean Variety Performance in Colorado Variety Trials from 1993-2003

Every year CSU personnel conduct pinto bean variety performance trials in different locations. Both varieties and locations change from year to year so a straight forward, statistical comparison of variety performance is not possible. However, it is useful to summarize yield performance over years- to take stock of what we have done and to generate a vision of where we are going with regards to pinto bean variety testing. In the following table yield performance by variety has been averaged over locations within each of eleven years. Entries reported are public and commercial named varieties common to all trials for a year. Public and private experimental lines were not included in this summary. The number of locations per year varied from three to six. The trial average (at bottom of each year's yield column) is a simple average of the yields of reported varieties for that year. The second column is the yield for each reported variety

expressed as a percent of the trial average for each year. Average yield over years and average percent of trial average are shown in the columns at the extreme right. Finally, the table was sorted by highest average percent of trial average.

Thirty-nine public and commercial named pinto bean varieties have been tested during this eleven year period. Some varieties were only tested for one year, while Bill Z was tested in all eleven years. Montrose and Chase were tested for seven and eight years, respectively. Even though rigorous comparisons of performance cannot be made for varieties tested in different years and locations, the Colorado dry bean industry can use the table to gain insight into relative variety performance of a large number of varieties. The variety Burke, for example, came on the scene in 1996 and performed very well in 1996 and 1997 followed by mediocre performance in subsequent years. Varieties that perform well in one part of the state and not so well in another part would be expected to show up in the middle of the table along with varieties that had mediocre performance over all locations.

Table 3. Summary of Pinto Bean Variety Performance in Colorado Variety Trials from 1993-2003.

Variety	1993		1994		1995		1996		1997		1998		1999		2000		2001		2002		2003		Long Term Ave		
	Yield		Yield		Yield		Yield		Yield		Yield		Yield		Yield		Yield		Yield		Yield		Yield		
	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	lb/ac	% ave	
Montrose									2830	134	2708	118	2821	111	3213	106	2705	104	2586	111	2956	114	2831	114	
ROG 179									2396	113													2396	113	
USPT 72																	2559	109					2559	109	
Chase	1931	109	2485	109	1618	116	2260	103	2417	114	2628	115	2584	101	3049	100							2371	109	
Cisco													2775	109	3280	108								3028	108
B310			2470	108																			2470	108	
Poncho													2613		3332	110	2862	110	2371	101	2826	109	2801	108	
NW-410	1925	109	2495	109	1349	97																	1923	105	
UI 196					1397	101																	1397	101	
Bill Z	1872	106	2452	107	1461	105	2459	112	2101	99	2167	95	2617	103	3212	106	2621	101	2613	112	2463	95	2367	104	
GTS Cob 502-94															3139	103							3139	103	
Buster													2672	105	3087	102	2654	102					2804	103	
UI-126	1967	111	2267	99	1294	93																	1843	101	
Othello	1872	106	2227	98	1420	102			2158	102			2265		3044	100							2164	102	
ROG 261									2116	100	2368	103											2242	102	
USPT-73											2217	97	2418	95	3230	106	2825	109	2374	102			2613	102	
UI-129	1695	96	2281	100	1458	105																	1811	100	
ROG 117									2137	101													2137	101	
Olathe	1759	99	2333	102	1318	95	2174																1896	99	
Frontier													2542	100									2542	100	
ROG 214											2259	99											2259	99	
Vision									1624	77	2421	106	2604	102			2790	107					2360	98	
Elizabeth									2367	112	2281	100	2178	86	2780	92							2402	97	
Apache									2107	100	2166	95											2137	97	
Grand Mesa															2631	103	2902	96	2458	95	2329	100	2283	88	
Maverick							2021	92	1911	90	2434	106											2122	96	
Arapahoe	1484	84	2218	97	1440	104																	1714	95	
Burke							2329	106	2113	100	2066	90	2464	97	2713	89	2426	93					2352	96	
UI-114	1688	95	2306	101	1145	82																	1713	93	
Buckskin									2008	95			2475	97	2769	91			2184	93	2382	92	2364	94	
Kodiak											2066	90	2542	100	2749	91							2452	94	
Rally																	2312	89	2134	91			2223	90	
Hatton							1930	88															1930	88	
UI 320											2000	87											2000	87	
NE91-11			1974	87																			1974	87	
ROG 299									1808	86													1808	86	
RS-101	1534	87	1878	82																			1706	84	
GTS-900									1610	76							2339	90					1975	83	
USPT 74																			1887	81			1887	81	
Trial Average	1773		2282		1390		2196		2114		2291		2547		3036		2599		2337		2582		2281		

Table 4. Pinto Bean Variety Performance Trial at Haxtun¹ in 2003.

Variety	Yield	Moisture	Test	
			Weight	Seed/lb
	lb/ac	%	lb/bu	No.
Montrose	3662	15.2	60.1	1164
CO96737	3239	20.1	57.1	1146
CO83778	3233	17.6	58.6	1167
CO96731	3163	18.9	58.6	1070
99211	3155	18.7	58.6	1264
CO83783	3118	20.9	57.8	1053
00195	3117	16.0	58.9	1365
99195	3108	16.7	59.6	1362
Bill Z	3087	14.4	58.8	1295
Poncho	3070	14.6	59.3	1194
CO12650	2892	17.8	59.4	1439
Buckskin	2873	13.5	59.0	1261
99236	2710	15.1	59.7	1323
99204	2474	13.8	59.5	1332
Grand Mesa	2346	14.5	58.7	1347
00167	2324	14.7	58.4	1426
CO96753	2257	35.0	53.1	1105
99218	1946	12.5	59.9	1410
Average	2876	17.2	58.6	1262
LSD _(0.30)	272			

¹Trial conducted on the Steve Smith farm; seeded 6/5 and harvested 9/15.

Table 5. Pinto Bean Variety Performance Trial at Idalia¹ in 2003.

Variety	Yield	Moisture	Test	
			Weight	Seed/lb
	lb/ac	%	lb/bu	No.
Poncho	2969	12.7	60.7	1108
Montrose	2931	11.8	59.9	1208
CO96737	2726	15.4	59.6	1142
CO12650	2710	15.5	60.3	1432
99236	2587	15.3	59.5	1168
99195	2536	14.0	61.0	1261
99211	2521	14.7	58.5	1226
00195	2510	14.6	60.1	1462
CO96731	2439	14.7	59.4	1131
CO83778	2421	13.9	59.2	1135
00167	2372	14.0	48.6	1274
Bill Z	2323	11.6	58.4	1258
Grand Mesa	2317	11.4	58.5	1353
CO83783	2269	14.6	59.1	1132
Buckskin	2217	11.1	59.7	1270
CO96753	2152	18.1	58.9	1203
99218	2082	12.5	59.6	1205
99204	2029	12.1	60.1	1271
Average	2450	13.8	58.9	1235
LSD _(0.30)	225			

¹Trial conducted on the Dennis Towns farm; seeded 6/17 and harvested 10/06.

Table 6. Pinto Bean Variety Performance Trial at Montrose¹ in 2003.

Variety	Yield	
	lb/ac	Seed/lb
99195	3709	1257
00167	3477	1381
00195	3248	1298
99204	3230	1167
99236	3181	1231
CO96731	2995	1057
CO96753	2978	1067
CO12650	2934	1275
99211	2872	1104
CO83783	2756	1064
CO83778	2733	1098
99218	2732	1163
CO96737	2711	1109
Montrose	2640	1201
Bill Z	2465	1281
Poncho	2450	1193
Grand Mesa	2361	1264
Buckskin	2327	1212
Average	2878	1190
LSD _(0.30)	169	

¹Trial conducted on the Keith Catlin farm; seeded 6/05 and harvested 9/24.

Table 7. Pinto Bean Variety Performance Trial at Proctor¹ in 2003.

Variety	Yield	Test		
		Moisture %	Weight lb/bu	Seed/lb
Montrose	2909	16.9	58.3	1301
Poncho	2810	16.0	59.5	1280
Buckskin	2464	15.7	58.8	1239
99204	2343	14.3	58.6	1245
00167	2342	17.3	57.0	1362
99211	2295	23.0	56.6	1327
99236	2216	16.7	57.9	1309
99195	2112	17.7	58.6	1365
Bill Z	2083	15.0	56.8	1467
00195	1914	16.3	59.0	1495
CO83783	1889	19.8	57.5	1312
Grand Mesa	1854	16.5	57.7	1566
99218	1837	16.1	59.5	1385
CO12650	1707	21.2	57.4	1601
CO96737	1637	20.0	56.4	1391
CO96731	1609	17.4	57.3	1380
CO83778	1562	18.3	57.5	1433
CO96753	1179	49.3	51.8	991
Average	2042	19.3	57.6	1358
LSD _(0.30)	359			

¹Trial conducted on the Bob Duncan; seeded 6/11 and harvested 9/12.



<http://www.csuag.com>

Table 8. Pinto Bean Variety Performance Trial at Rocky Ford¹ in 2003.

Variety	Test			
	Yield lb/ac	Moisture %	Weight lb/bu	Seed/lb No.
Poncho	3987	8.6	59.0	1112
99195	3862	10.8	59.1	1226
Montrose	3853	9.1	59.3	1161
CO12650	3712	12.6	59.8	1244
99211	3464	10.9	57.1	1137
Grand Mesa	3387	8.7	57.2	1326
Bill Z	3355	8.5	57.3	1249
CO96753	3337	17.1	54.9	1028
99218	3239	8.9	59.7	1159
CO83778	3185	10.3	58.0	1076
CO96731	3176	11.2	57.7	1068
CO83783	3173	11.5	57.6	1064
00167	3153	9.7	56.5	1215
CO96737	3139	10.8	57.4	1088
99236	3120	13.6	57.8	1165
Buckskin	3038	8.3	58.0	1168
00195	2808	10.8	57.4	1324
99204	2807	8.3	58.3	1224
Average	3322	10.5	57.9	1169
LSD _(0.30)	232			

¹Trial conducted at the Arkansas Valley Research Center; seeded 6/12 and harvested 9/29.

Table 9. Pinto Bean Variety Performance Trial at Yellow Jacket¹ in 2003.

Variety	Yield lb/ac	Seed/lb No.
99236	2056	1117
99195	2018	1322
00167	2011	1350
CO12650	1936	1284
99218	1883	1148
00195	1862	1318
CO83778	1769	1226
Montrose	1740	1140
CO83783	1717	1107
Poncho	1670	998
CO96753	1613	1114
CO96731	1601	1159
99204	1594	1154
CO96737	1515	1185
99211	1497	1101
Bill Z	1466	1104
Grand Mesa	1436	1179
Buckskin	1376	1112
Average	1709	1173
LSD _(0.30)	131	

¹Trial conducted at the Southwestern Colorado Research Center; seeded 6/6 and harvested 9/19.

Special Market Class Varietal Descriptions:

- CO11094** A black seeded experimental line from Colorado State University.
- CO11113** A black seeded experimental line from Colorado State University.
- CO11116** A black seeded experimental line from Colorado State University.
- CO11096** A black seeded experimental line from Colorado State University.
- D109267** A dark red kidney line from ADM Edible Bean Specialities, Inc., Caldwell, ID
- L004185** A light red kidney line from ADM.
- Myasi-Z** A yellow seeded line from ADM, susceptible to bean common mosaic virus and common bacterial blight.
- ROG 728** A light red kidney line from Syngenta Seeds, Inc., Nampa, ID.

- ROG 776** A light red kidney line from Syngenta Seeds, Inc., Nampa, ID.
- ROG 773** A light red kidney line from Syngenta Seeds, Inc., Nampa, ID.
- Shiny Crow** A shiny black seeded line from Colorado State University released in 2000. It has a prostrate Type II growth habit, and is susceptible to white mold. It is resistant to bean common mosaic virus. It was released as a specialty bean specifically for the dry-pack shiny black bean market. It should not be grown for the commercial opaque or dull seed black bean market or mixed with opaque black beans.

Table 10. Black Bean Variety Performance Trial at Idalia¹ in 2003.

Variety	Yield	Moisture	Test	
			Weight	Seed/lb
	lb/ac	%	lb/bu	No.
Shiny Crow	2097	13.8	63.5	2067
CO11096	2065	14.2	62.5	1948
CO11113	1988	12.9	62.1	2072
CO11116	1819	13.4	62.5	2056
CO11094	1650	14.2	62.3	1946
Average	1924	13.7	62.6	2018
LSD _(0.30)	258			

¹Trial conducted on the Dennis Towns farm; seeded 6/17 and harvested 10/06.

Table 11. Kidney Bean Variety Performance Trial at Idalia¹ in 2003.

Variety	Yield	Moisture	Test	
			Weight	Seed/lb
	lb/ac	%	lb/bu	No.
ROG 773	1626	12.7	57.8	899
ROG 776	1622	12.6	57.4	935
ROG 728	1611	13.1	58.6	933
L004185	1379	13.3	57.7	978
D109267	1105	12.3	57.2	944
Average	1469	12.8	57.7	938
LSD _(0.30)	195			

¹Trial conducted on the Dennis Towns farm; seeded 6/17 and harvested 10/06.

Table 12. Yellow Bean Variety Performance at Idalia¹ in 2003.

Variety	Yield	Moisture	Test	
			Weight	Seed/lb
	lb/ac	%	lb/bu	No.
Myasi-Z	930	21.70	65.37	1332

¹Trial conducted on the Dennis Towns farm; seeded 6/17 and harvested 10/06.

Potential Risk of Bean Diseases in Colorado by Geographical Region

Howard F. Schwartz

Region/County	Rust	Bacterial* Disease	White Mold
<i>Northeast</i>			
Boulder	Low	Low	Moderate
Larimer	Low	Low	Moderate
Weld	Moderate	Moderate	High
Morgan	Moderate	Moderate	Moderate
Washington	High	High	Moderate
Logan	High	Moderate	Moderate
Sedgwick	High	High	High
Phillips	High	High	High
Yuma	High	High	High
Kit Carson	High	High	Moderate
<i>Arkansas Valley</i>			
Pueblo	Moderate	Low	Low
Otero	Moderate	Low	Low
<i>Western Slope</i>			
Mesa	Low	Low	Moderate
Delta	Low	Low	Moderate
Montrose	Low	Low	Moderate
San Miguel	Low	Low	Low
Dolores	Low	Low	Low
Montezuma	Low	Low	Low

*Complex of Halo Blight, Brown Spot, &/or Common Bacterial Blight.



CoAgMet Weather Data Summary, 2002-03

Howard F. Schwartz and Mark S. McMillan

		TOTAL RAINFALL (IN)					AVERAGE HIGH TEMPERATURE (F)				
		JUN	JUL	AUG	SEP	JUN - SEP TOTAL	JUN	JUL	AUG	SEP	JUN - SEP AVERAGE
NORTHEAST											
Ault	2002	1.14	1.94	0.31	0.45	3.84	87.4	90.3	85.0	76.2	84.7
	2003	1.31	0.04	2.09	0.24	3.68	77.0	90.4	89.3	77.0	83.4
Burlington	2002	1.69	0.11	1.48	0.21	3.49	91.2	92.6	87.5	78.2	87.3
	2003	6.17	0.37	0.89	0.64	8.07	77.8	93.9	92.8	80.5	86.3
Fort Morgan	2002	0.91	0.35	1.52	0.56	3.34	90.0	92.4	88.8	78.5	87.4
	2003	1.28	2.48	0.67	0.06	4.49	80.7	93.6	91.0	81.2	86.6
Kersey	2002	0.73	0.32	1.02	0.72	2.79	89.7	93.0	87.1	78.3	87.0
	2003	0.99	1.59	1.01	0.38	3.97	79.2	93.2	91.3	79.8	85.9
Peckham	2002	0.66	1.30	0.45	0.79	3.20	91.2	92.2	87.8	79.0	87.6
	2003	1.23	0.16	2.22	0.29	3.90	80.1	94.1	93.9	80.0	87.0
Wray	2002	1.10	0.70	3.11	0.84	5.75	89.8	92.0	85.2	77.3	86.1
	2003	1.32	2.05	2.27	0.49	6.13	79.7	92.9	92.0	81.4	86.5
Yuma	2002	1.55	0.48	4.58	1.19	7.80	87.6	89.7	83.1	76.2	84.1
	2003	2.39	1.19	0.67	0.19	4.44	77.9	89.9	88.3	78.7	83.7
ARKANSAS VALLEY											
Avondale	2002	0.69	0.68	0.10	0.45	1.92	86.9	92.3	90.6	81.8	87.9
	2003	2.48	0.21	0.95	0.25	3.89	80.8	95.2	93.2	80.9	87.5
Rocky Ford	2002	0.54	0.06	0.38	0.50	1.48	93.2	94.3	90.4	82.2	90.0
	2003	1.70	0.48	0.47	0.41	3.06	82.8	96.9	94.1	82.1	89.0
WEST SLOPE											
Delta	2002	0.00	0.60	0.54	3.02	4.16	92.7	92.3	88.0	76.4	87.3
	2003	0.19	0.00	0.23	1.63	2.05	87.4	96.5	93.2	81.0	89.5
Dove Creek	2002	0.01	0.82	0.29	2.03	3.15	87.0	88.7	84.8	72.9	83.3
	2003	0.20	0.21	0.57	2.07	3.05	82.1	90.7	86.2	75.4	83.6
Grand Junction	2002	0.04	0.14	1.63	1.62	3.43	91.5	94.8	89.4	77.4	88.3
	2003	0.22	0.12	1.19	1.38	2.91	87.0	99.0	95.9	83.6	91.4

**2003 Dry Bean Disease Observations – CSU
Variety Trials in Eastern Colorado**

Notes taken by Howard F. Schwartz

Variety	Proctor	Haxtun	Idalia
Pinto's			
00195		BBS	
Poncho	CBB	BBS*	FW
CO83778	CBB	CBB, BBS	
99236		CBB, BBS*	
CO12650		CBB, BBS, WM	
CO96731	CBB	BBS	
00167		BBS	
99195	CBB	BBS	
99218	CBB*	CBB*	
Bill Z	CBB	CBB, BBS	
CO96737	CBB	BBS	
99211		BBS	
Buckskin		BBS*	
CO96753			
99204		CBB, BBS*	FW
Grand Mesa	CBB	CBB, BBS	
Montrose	CBB	CBB	
CO83783		BBS	
Black's			
CO11094			
CO11113			
CO11116			FW
CO11096			
Shiny Crow			
Kidney Types			
ROG 728			
L004185			Systemic Necrosis
ROG 776			
ROG 773			CBB
D109267			CBB
Yellow			
Myasi-Z			CBB, BCMV*

Disease Notes: the following diseases were present in the variety plots at that location, and were indicative of a susceptible-type reaction. Absence of a note could indicate an escape, not necessarily a resistant reaction.

* = severe disease throughout the variety plot,
CBB = Common Bacterial Blight, BBS = Bacterial Brown Spot, FW = Fusarium Wilt, WM = White Mold,
BMCV = Bean Common Mosaic Virus (Systemic Necrosis).

Entry Forms for 2004 Trials

Entry forms for 2004 trials may be obtained from the Department of Soil and Crop Sciences, Colorado State University, Cynthia Johnson, C03 Plant Science Building, Fort Collins, CO 80523-1170; Telephone (970) 491-1914; Fax (970) 491-2758; e-mail cjohnson@agsci.colostate.edu or web site <http://www.colostate.edu/Depts/SoilCrop/extension/CropVar/index.html>

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A handwritten signature in black ink that reads 'Jerry Johnson'.

Jerry Johnson, Extension Specialist Crop Production

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